Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Identification of the substance
Acetic acid ethyl ester

Article number
7336

Registration number (REACH)
01-2119475103-46-xxxx

Index No
607-022-00-5

EC number
205-500-4

CAS number
141-78-6

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses:
laboratory chemical
laboratory and analytical use

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone: +49 (0) 721 - 56 06 0
Telefax: +49 (0) 721 - 56 06 149
e-mail: sicherheit@carlroth.de
Website: www.carlroth.de

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

e-mail (competent person): sicherheit@carlroth.de

1.4 Emergency telephone number

Emergency information service
Poison Centre Munich: +49/(0)89 19240

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

<table>
<thead>
<tr>
<th>Section</th>
<th>Hazard class</th>
<th>Hazard class and category</th>
<th>Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.6</td>
<td>flammable liquid</td>
<td>(Flam. Liq. 2)</td>
<td>H225</td>
</tr>
<tr>
<td>3.3</td>
<td>serious eye damage/eye irritation</td>
<td>(Eye Irrit. 2)</td>
<td>H319</td>
</tr>
<tr>
<td>3.8D</td>
<td>specific target organ toxicity - single exposure (narcotic effects, drowsiness)</td>
<td>(STOT SE 3)</td>
<td>H336</td>
</tr>
</tbody>
</table>
Supplemental hazard information

<table>
<thead>
<tr>
<th>Code</th>
<th>Supplemental hazard information</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUH066</td>
<td>repeated exposure may cause skin dryness or cracking</td>
</tr>
</tbody>
</table>

The most important adverse physicochemical, human health and environmental effects
Narcotic effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word: Danger

Pictograms

GHS02, GHS07

Hazard statements

H225 Highly flammable liquid and vapour
H319 Causes serious eye irritation
H336 May cause drowsiness or dizziness

Precautionary statements

Precautionary statements - prevention
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243 Take action to prevent static discharges.

Precautionary statements - response
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental hazard information

EUH066 Repeated exposure may cause skin dryness or cracking.

Labelling of packages where the contents do not exceed 125 ml
Signal word: Danger
Symbol(s)

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards

There is no additional information.
SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>Ethyl acetate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index No</td>
<td>607-022-00-5</td>
</tr>
<tr>
<td>Registration number (REACH)</td>
<td>01-2119475103-46-xxxx</td>
</tr>
<tr>
<td>EC number</td>
<td>205-500-4</td>
</tr>
<tr>
<td>CAS number</td>
<td>141-78-6</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>C4H8O2</td>
</tr>
<tr>
<td>Molar mass</td>
<td>88.11 g/mol</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes
Take off contaminated clothing.

Following inhalation
Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact
Rinse skin with water/shower.

Following eye contact
Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

Following ingestion
Rinse mouth. Do not induce vomiting. Observe aspiration hazard if vomiting occurs. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Following inhalation: Headaches and dizziness may occur, Breathing difficulties, Dizziness, Drowsiness, Narcosis,
Following skin contact: Has degreasing effect on the skin, Irritant effects, 
After eye contact: Irritation, 
After ingestion: Nausea, Vomiting, Aspiration hazard

4.3 Indication of any immediate medical attention and special treatment needed
Give sodium sulfate as laxative (1 tablespoon in 1 glass of water).
SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Co-ordinate fire-fighting measures to the fire surroundings
water spray, foam, dry extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media
water jet

5.2 Special hazards arising from the substance or mixture
Combustible. Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Hazardous combustion products
In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO₂)

5.3 Advice for firefighters

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

6.2 Environmental precautions
Keep away from drains, surface and ground water. Explosive properties.

6.3 Methods and material for containment and cleaning up
Advice on how to contain a spill
Covering of drains.

Advice on how to clean up a spill
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases
Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections
SECTION 7: Handling and storage

7.1 Precautions for safe handling
Provision of sufficient ventilation. Avoid: Aerosol or mist formation.

- Measures to prevent fire as well as aerosol and dust generation

Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

Advice on general occupational hygiene
Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Incompatible substances or mixtures
Observe hints for combined storage.

Consideration of other advice
Ground/bond container and receiving equipment.

- Ventilation requirements
Use local and general ventilation.

- Specific designs for storage rooms or vessels
Recommended storage temperature: 15 – 25 °C.

7.3 Specific end use(s)
No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

<table>
<thead>
<tr>
<th>Country</th>
<th>Name of agent</th>
<th>CAS No</th>
<th>Identifier</th>
<th>TWA [ppm]</th>
<th>TWA [mg/m³]</th>
<th>STEL [ppm]</th>
<th>STEL [mg/m³]</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>ethyl acetate</td>
<td>141-78-6</td>
<td>IOELV</td>
<td>200</td>
<td>734</td>
<td>400</td>
<td>1.468</td>
<td>2017/164/EU</td>
</tr>
<tr>
<td>MT</td>
<td>ethyl acetate</td>
<td>141-78-6</td>
<td>OELV</td>
<td>200</td>
<td>734</td>
<td>400</td>
<td>1.468</td>
<td>CAP. 424</td>
</tr>
</tbody>
</table>

Notation

STEL  Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA  Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)
### Relevant DNELs/DMELs/PNECs and other threshold levels

#### human health values

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Protection goal, route of exposure</th>
<th>Used in</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL</td>
<td>734 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>1.468 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>acute - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>734 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - local effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>1.468 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>acute - local effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>63 mg/kg bw/day</td>
<td>human, dermal</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
</tbody>
</table>

#### environmental values

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Environmental compartment</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC</td>
<td>1,65 mg/l</td>
<td>water</td>
<td>intermittent release</td>
</tr>
<tr>
<td>PNEC</td>
<td>0,24 mg/l</td>
<td>freshwater</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0,024 mg/l</td>
<td>marine water</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>650 mg/l</td>
<td>sewage treatment plant (STP)</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>1,15 mg/kg</td>
<td>freshwater sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0,115 mg/kg</td>
<td>marine sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0,148 mg/kg</td>
<td>soil</td>
<td>short-term (single instance)</td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

#### Eye/face protection

Use safety goggles with side protection.

#### Skin protection

#### Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 °C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.
• **type of material**
  Butyl caoutchouc (butyl rubber)
• **material thickness**
  0,7mm.
• **breakthrough times of the glove material**
  >480 minutes (permeation: level 6)
• **other protection measures**
  Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.
  Flame-retardant protective clothing.

**Respiratory protection**

Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C, colour code: Brown).

**Environmental exposure controls**

Keep away from drains, surface and ground water.

---

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

**Appearance**
- Physical state: liquid (fluid)
- Colour: colourless
- Odour: fruity
- Odour threshold: 50 ppm

**Other physical and chemical parameters**
- pH (value): This information is not available.
- Melting point/freezing point: -83,6 °C at 101,3 kPa
- Initial boiling point and boiling range: 77,1 °C at 101,3 kPa
- Flash point: -4 °C at 101,3 kPa
- Evaporation rate: no data available
- Flammability (solid, gas): not relevant (fluid)
- Explosive limits
  - lower explosion limit (LEL): 2,2 vol% (73 g/m³)
  - upper explosion limit (UEL): 11,5 vol% (470 g/m³)
- Explosion limits of dust clouds: not relevant
- Vapour pressure: 9,187 kPa at 19 °C
- Density: 900,3 g/cm³ at 20 °C
Vapour density 3,04 (air = 1)
Bulk density Not applicable
Relative density Information on this property is not available.
Solubility(ies)
Water solubility 80,000 mg/l at 25 °C
Partition coefficient
n-octanol/water (log KOW) 0,68 (pH value: 7, 25 °C) (ECHA)
Auto-ignition temperature 427 °C at 101,3 kPa
Decomposition temperature no data available
Viscosity
• kinematic viscosity 0,501 mm²/s
• dynamic viscosity 0,451 mPa s at 20 °C
Explosive properties Shall not be classified as explosive
Oxidising properties none

9.2 Other information
Refractive index 1,372
Temperature class (EU, acc. to ATEX) T2 (Maximum permissible surface temperature on the equipment: 300°C)

SECTION 10: Stability and reactivity

10.1 Reactivity
Risk of ignition. Vapours can form explosive mixtures with air.

10.2 Chemical stability
May cause decomposition by long-term light influence. Moisture-sensitive.

10.3 Possibility of hazardous reactions
Exothermic reaction with: Fluorine, Strong oxidiser, 
Danger of explosion: Alkalai metals, Alkaline earth metal, Violent reaction with: Strong acid, Strong alkali

10.4 Conditions to avoid
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. - Direct light irradiation. - Humidity.

10.5 Incompatible materials
different plastics

10.6 Hazardous decomposition products
Hazardous combustion products: see section 5.
11.1 Information on toxicological effects

Acute toxicity

Shall not be classified as acutely toxic.

<table>
<thead>
<tr>
<th>Exposure route</th>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>oral</td>
<td>LD50</td>
<td>5.620 mg/kg</td>
<td>rat</td>
<td>TOXNET</td>
</tr>
<tr>
<td>dermal</td>
<td>LD50</td>
<td>&gt;20.000 mg/kg</td>
<td>rabbit</td>
<td>ECHA</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

• Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

• Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

nausea, vomiting, aspiration hazard

• If in eyes

Irritating to eyes

• If inhaled

headache, vertigo, breathing difficulties, dizziness, drowsiness, narcosis

• If on skin

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation)

Other information

None
SECTION 12: Ecological information

12.1 Toxicity
acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50</td>
<td>230 mg/l</td>
<td>fish</td>
<td>ECHA</td>
<td>96 h</td>
</tr>
<tr>
<td>EC50</td>
<td>220 mg/l</td>
<td>fish</td>
<td>ECHA</td>
<td>96 h</td>
</tr>
</tbody>
</table>

Aquatic toxicity (chronic)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOEC</td>
<td>2,4 mg/l</td>
<td>aquatic invertebrates</td>
<td>ECHA</td>
<td>21 d</td>
</tr>
</tbody>
</table>

12.2 Process of degradability
The substance is readily biodegradable.
Theoretical Oxygen Demand: 1,816 mg/mg
Theoretical Carbon Dioxide: 1,998 mg/mg

<table>
<thead>
<tr>
<th>Process</th>
<th>Degradation rate</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>biotic/abiotic</td>
<td>100 %</td>
<td>28 d</td>
</tr>
<tr>
<td>oxygen depletion</td>
<td>62 %</td>
<td>5 d</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential
Does not significantly accumulate in organisms.

n-octanol/water (log KOW): 0.68 (pH value: 7, 25 °C)

BCF: 30 (ECHA)

12.4 Mobility in soil
Data are not available.

12.5 Results of PBT and vPvB assessment
Data are not available.

12.6 Other adverse effects
Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information
Do not empty into drains.
Waste treatment of containers/packagings
It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

13.2 Relevant provisions relating to waste
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks
Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number
14.2 UN proper shipping name
ETHYL ACETATE
Hazardous ingredients
Acetic acid ethyl ester

14.3 Transport hazard class(es)

Class 3 (flammable liquids)

14.4 Packing group
II (substance presenting medium danger)

14.5 Environmental hazards
none (non-environmentally hazardous acc. to the dangerous goods regulations)

14.6 Special precautions for user
Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code
The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

UN number 1173
Proper shipping name ETHYL ACETATE
Particulars in the transport document UN1173, ETHYL ACETATE, 3, II, (D/E)
Class 3
Classification code F1
Packing group II
Danger label(s) 3

Excepted quantities (EQ) E2
Limited quantities (LQ) 1 L
Transport category (TC) 2
Tunnel restriction code (TRC) D/E
Hazard identification No 33

**International Maritime Dangerous Goods Code (IMDG)**

- UN number 1173
- Proper shipping name ETHYL ACETATE
- Particulars in the shipper’s declaration UN1173, ETHYL ACETATE, 3, II, -4°C c.c.
- Class 3
- Marine pollutant -
- Packing group II
- Danger label(s) 3

![Flammable]

- Special provisions (SP) -
- Excepted quantities (EQ) E2
- Limited quantities (LQ) 1 L
- EmS F-E, S-D
- Stowage category B

**International Civil Aviation Organization (ICAO-IATA/DGR)**

- UN number 1173
- Proper shipping name Ethyl acetate
- Particulars in the shipper’s declaration UN1173, Ethyl acetate, 3, II
- Class 3
- Packing group II
- Danger label(s) 3

![Flammable]

- Excepted quantities (EQ) E2
- Limited quantities (LQ) 1 L
SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant provisions of the European Union (EU)

- **Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)**
  Not listed.

- **Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)**
  Not listed.

  Not listed.

- **Restrictions according to REACH, Annex XVII**

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Wt%</th>
<th>Type of registration</th>
<th>Conditions of restriction</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid ethyl ester</td>
<td></td>
<td>100</td>
<td>1907/2006/EC annex XVII</td>
<td>R3</td>
<td>3</td>
</tr>
<tr>
<td>Acetic acid ethyl ester</td>
<td></td>
<td>100</td>
<td>1907/2006/EC annex XVII</td>
<td>R40</td>
<td>40</td>
</tr>
</tbody>
</table>

**Legend**

- **R3**
  - Shall not be used in:
    - ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
    - tricks and jokes,
    - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
  - Articles not complying with paragraph 1 shall not be placed on the market.
  - Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
    - can be used as fuel in decorative oil lamps for supply to the general public, and,
    - present an aspiration hazard and are labelled with R65 or H304.
  - Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
  - Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
    1. Shall not be used in:
      - ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
      - tricks and jokes,
      - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
    2. Articles not complying with paragraph 1 shall not be placed on the market.
    3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
      - can be used as fuel in decorative oil lamps for supply to the general public, and,
      - present an aspiration hazard and are labelled with R65 or H304.
    4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
    5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
      - a sip of lamp oil - or even sucking the wick of lamps - may lead to life-threatening lung damage;
      - present an aspiration hazard and are labelled with R65 or H304.
    6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.
    7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.
Acetic acid ethyl ester ROTISOLV® HPLC

article number: 7336

Legend

R40

1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:
   - metallic glitter intended mainly for decoration,
   - artificial snow and frost,
   - ‘whoopee’ cushions,
   - silly string aerosols,
   - imitation excrement,
   - horns for parties,
   - decorative flakes and foams,
   - artificial cobwebs,
   - stink bombs.

2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with:
   ‘For professional users only’.

3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (2).

4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

• Restrictions according to REACH, Title VIII

None.

• List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list

not listed

• Seveso Directive

<table>
<thead>
<tr>
<th>2012/18/EU (Seveso III)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
</tr>
<tr>
<td>----</td>
</tr>
<tr>
<td>P5c</td>
</tr>
</tbody>
</table>

Notation

51) Flammable liquids, categories 2 or 3 not covered by P5a and P5b

• Directive 75/324/EEC relating to aerosol dispensers

Filling batch


<table>
<thead>
<tr>
<th>VOC content</th>
<th>100 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>900,3 g/l</td>
<td></td>
</tr>
</tbody>
</table>

Directive on industrial emissions (VOCs, 2010/75/EU)

<table>
<thead>
<tr>
<th>VOC content</th>
<th>100 %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VOC content</th>
<th>900,3 g/l</th>
</tr>
</thead>
</table>

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

not listed

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

not listed
Regulation 98/2013/EU on the marketing and use of explosives precursors  
not listed

Regulation 111/2005/EC laying down rules for the monitoring of trade between the Community and third countries in drug precursors  
not listed

National inventories
Substance is listed in the following national inventories:

<table>
<thead>
<tr>
<th>Country</th>
<th>National inventories</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>AU</td>
<td>AIICS</td>
<td>substance is listed</td>
</tr>
<tr>
<td>CA</td>
<td>DSL</td>
<td>substance is listed</td>
</tr>
<tr>
<td>CN</td>
<td>IECSC</td>
<td>substance is listed</td>
</tr>
<tr>
<td>EU</td>
<td>ECSI</td>
<td>substance is listed</td>
</tr>
<tr>
<td>EU</td>
<td>REACH Reg.</td>
<td>substance is listed</td>
</tr>
<tr>
<td>JP</td>
<td>CSCL-ENCS</td>
<td>substance is listed</td>
</tr>
<tr>
<td>KR</td>
<td>KECI</td>
<td>substance is listed</td>
</tr>
<tr>
<td>MX</td>
<td>INSQ</td>
<td>substance is listed</td>
</tr>
<tr>
<td>NZ</td>
<td>NZIoC</td>
<td>substance is listed</td>
</tr>
<tr>
<td>PH</td>
<td>PICCS</td>
<td>substance is listed</td>
</tr>
<tr>
<td>TR</td>
<td>CICR</td>
<td>substance is listed</td>
</tr>
<tr>
<td>TW</td>
<td>TCSI</td>
<td>substance is listed</td>
</tr>
<tr>
<td>US</td>
<td>TSCA</td>
<td>substance is listed</td>
</tr>
</tbody>
</table>

Legend

AICS  Australian Inventory of Chemical Substances
CICR  Chemical Inventory and Control Regulation
CSCL-ENCS  List of Existing and New Chemical Substances (CSCL-ENCS)
DSL  Domestic Substances List (DSL)
ECSI  EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC  Inventory of Existing Chemical Substances Produced or Imported in China
INSQ  National Inventory of Chemical Substances
KECI  Korea Existing Chemicals Inventory
NZIoC  New Zealand Inventory of Chemicals
PICCS  Philippine Inventory of Chemicals and Chemical Substances
REACH Reg.  REACH registered substances
TCSI  Taiwan Chemical Substance Inventory
TSCA  Toxic Substance Control Act

15.2 Chemical Safety Assessment
No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Abbreviations and acronyms
### Abbreviations and Descriptions

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</td>
</tr>
<tr>
<td>BCF</td>
<td>bioconcentration factor</td>
</tr>
<tr>
<td>CAP. 424</td>
<td>Occupational Health and Safety Authority Act (CAP. 424)</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>CMR</td>
<td>Carcinogenic, Mutagenic or toxic for Reproduction</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations (see IATA/DGR)</td>
</tr>
<tr>
<td>DMEL</td>
<td>Derived Minimal Effect Level</td>
</tr>
<tr>
<td>DNEL</td>
<td>Derived No-Effect Level</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
</tr>
<tr>
<td>ELINCS</td>
<td>European List of Notified Chemical Substances</td>
</tr>
<tr>
<td>EmS</td>
<td>Emergency Schedule</td>
</tr>
<tr>
<td>GHS</td>
<td>&quot;Globally Harmonized System of Classification and Labelling of Chemicals&quot; developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATA/DGR</td>
<td>Dangerous Goods Regulations (DGR) for the air transport (IATA)</td>
</tr>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organization</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>index No</td>
<td>the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008</td>
</tr>
<tr>
<td>IOELV</td>
<td>indicative occupational exposure limit value</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of &quot;Marine Pollutant&quot;)</td>
</tr>
<tr>
<td>NLP</td>
<td>No-Longer Polymer</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>PNEC</td>
<td>Predicted No-Effect Concentration</td>
</tr>
<tr>
<td>ppm</td>
<td>parts per million</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)</td>
</tr>
<tr>
<td>STEL</td>
<td>short-term exposure limit</td>
</tr>
</tbody>
</table>
Abbr. | Descriptions of used abbreviations
---|---
SVHC | Substance of Very High Concern
TWA | time-weighted average
VOC | Volatile Organic Compounds
vPvB | very Persistent and very Bioaccumulative

Key literature references and sources for data
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

List of relevant phrases (code and full text as stated in chapter 2 and 3)

<table>
<thead>
<tr>
<th>Code</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>H225</td>
<td>highly flammable liquid and vapour</td>
</tr>
<tr>
<td>H319</td>
<td>causes serious eye irritation</td>
</tr>
<tr>
<td>H336</td>
<td>may cause drowsiness or dizziness</td>
</tr>
</tbody>
</table>

Disclaimer
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.